

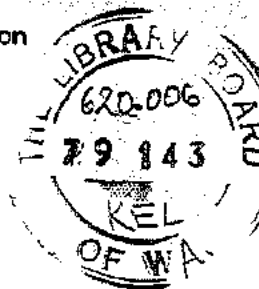
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THE INSTITUTION OF ENGINEERS AUSTRALIA

RETIRING CHAIRMAN'S ADDRESS

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**A History of the Institution
in Western Australia**

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Introduction

Traditionally the retiring Division Chairman presents an address to the Annual General Meeting, and in past years the selected topics have covered a very wide range. Tonight we have witnessed the unveiling of an honour board of Chairmen, and the presentation of the first set of medals for those Awards of the Institution which are administered through the Western Australia Division. This all tends to create an interest in personalities and activities of the past. Therefore under these circumstances, I felt it appropriate that I should attempt to briefly review the history of the Institution - placing particular emphasis on the role of its Division in Western Australia.

The Western Australian Institution of Engineers

By the end of World War I in 1918, at least one engineering society had been established in each State in the Commonwealth of Australia. Two of these societies had interstate branches, but the others restricted their activities within the boundaries of individual States.

One of these engineering societies was the Western Australian Institution of Engineers. It was founded in 1909, but had its inaugural year of operation in 1910 and was incorporated in November 1911. Its membership was available to engineers in all branches of the profession, and the Institution operated in accordance with a comprehensive set of Rules and Bye-laws which had been drafted along the same lines as the Institution of Civil Engineers, London. It had as its declared objective

"the advancement of engineering knowledge and practice, and the maintenance of a highly professional standard among its members; the promotion of the professional interests of engineers and the improvement of their professional status".

Provision was made for both corporate and non-corporate grades of membership.

A different President was elected for each of the ten years that the Institution remained in existence, but Mr. W.B. Shaw held the position of Honorary Secretary for the nine year period 1910-1918.

The first President of the Western Australian Institution of Engineers was Mr. James Thompson who was the Engineer in Chief of the Public Works Department. Mr. Thompson's inaugural address, which was presented on 31 March, 1910, was a most valuable, comprehensive review of the State's early engineering development. It was published in the first volume of the Proceedings of the Western Australian Institution of Engineers dated October 1910.

The founders of the Western Australian Institution of Engineers had recognised the inherent weakness of small independent societies, and in Rule No. 73 of its constitution provided as follows:-

"In the event of the proposed establishment of an Institution, having objects similar to this Institution, for the whole of the Commonwealth of Australia and representing each of the States, the Council is empowered to negotiate with a view to affiliation."

In November 1910 the Western Australian Institution of Engineers wrote to all the other engineering societies and suggested some form of amalgamation. This is recognised as the earliest in a series of activities by the various societies which were eventually to lead to the formation of the Institution of Engineers Australia. Although the subsequent moves were initiated and followed up by other organisations, the Western Australian Institution of Engineers maintained close liaison, and finally it was one of the ten existing autonomous organisations which accepted the constitution for the new Institution on 1 August 1919, and thereby became one of its Foundation Societies.

Reports in the 1920 Transactions of the Institution quote the number of Foundation Societies as 12, because the individual branches of two societies were originally considered as separate units. On the other hand, the Bye-laws of the Institution refer to 11 Foundation Societies, and this number is obtained by the inclusion of the Institution of Municipal Engineers of Victoria, which amalgamated in 1926.

The three societies which decided not to amalgamate and become Foundation Societies of the Institution of Engineers Australia, were the Australasian Institute of Mining and Metallurgy, the Victorian Institute of Engineers and the Victorian Branch of the Institute of Local Government Engineers. Of these societies only the first has survived.

Divisions of the Institution

The Institution of Engineers Australia was thus established as an independent federal organisation by an amalgamation of the various State societies. Due to the smallness of its membership, the vastness of the area it covered, and the difficulties with communications, it was inevitable that the initial organisational structure of the new Institution should be formed on a geographic basis, by dividing the Commonwealth of Australia into a number of convenient areas. Further, because of the historical background of the Australian political system, and the influence of the Foundation Societies, it was also inevitable that the geographic sub-division would follow State boundaries and that the basic unit would be known as a Division.

Initially (with the exception of Tasmania), the Divisions adopted the name of the city in which their office was established.

The situation in Western Australia is explained as follows in a letter sent to the Registrar of Companies by Associate Professor Alfred Tomlinson

"the Western Australian Institution of Engineers, incorporated during the year 1911, has ceased to exist, having been absorbed by resolution by the Perth Division of the Institution of Engineers Australia on 1 August 1919".

Professor Tomlinson was Honorary Secretary of the Western Australian Institution of Engineers in 1919 and of the Perth Division of the Institution of Engineers Australia from 1920 to 1922.

Under the terms of the amalgamation which applied to all Foundation Societies, Members and Associate Members of the Western Australian Institution of Engineers were automatically accepted as Foundation Associate Members of the Institution of Engineers Australia, while eight of them were transferred to the grade of Member within 12 months. However, in 1920 the total membership of the Perth Division was only 79, making it the second smallest of all the Divisions, with only 5 more members than Tasmania Division. Sydney Division with a membership of 851 was easily the largest.

In 1920 the Perth Division established its office and meeting room in Queens Buildings, William Street, but moved to the Professional Societies Rooms at 333 Murray Street in March 1922.

Prominent Personalities of the Division

Although it was established in 1919, the foundation session of the Institution and its Divisions was in 1920.

Mr. F.W. Lawson, who was the Chief Engineer of the Metropolitan Water Supply Department was the inaugural Chairman of the Perth Division, and an inaugural Vice-President of the Institution. The first West Australian to achieve the distinction of being elected to the position of President of the Institution was Mr. C.E. Crocker, who was Chief Engineer of the City of Perth Electricity and Gas Department. Mr. Crocker had been the last President of the Western Australian Institution of Engineers (i.e. in 1919). He was Chairman of the Perth Division in 1924, a Vice-President of the Institution in 1924 and 1925, and President of the Institution in 1926.

Other West Australians elected as President of the Institution were Mr. G. Drake-Brockman (1940), Professor O.F. Blakey (1945), and Mr. J.D. Leach (1964). Mr. Drake-Brockman was the Engineer for North-West in the Public Works Department, and had been Chairman of the Perth Division in 1937. Professor Blakey was the Professor of Civil Engineering at the University of Western Australia, and he had achieved the unique distinction of having been Chairman of the Perth Division on two occasions - namely 1935 and 1942. Mr. J.D. Leach was the Commissioner of Main Roads, and had been Chairman of the Perth Division in 1949.

The chief executive officer of the Division is the Chairman and the names of those who have held this position are recorded on the honour board which has been unveiled tonight. It is not within the intended scope of this paper to comment on the individual careers of any of the Chairman. Each in his own manner has advanced the interests of the Institution in accordance with the opportunities which existed during his term of office.

Apart from the two terms served by Professor Blakey which I have already commented on, the other aspect which deserves particular notice is the father/son combination of Mr. F.C. Edmondson (1934) and Mr. F. Edmondson (1968).

Our recognition of the activities of the senior office bearers of the Division would be incomplete if reference were not made to the work carried out by the Honorary Secretaries - some of whom gave long periods of service. The longest serving of the Honorary Secretaries was Mr. E.H. Oldham, who held the position for a 12-year period from 1927 to 1938. Those who held the position for 7-year periods were Mr. J.B. Jukes (1939-1945), Mr. W.D. Benson (1949-1955) and Mr. E.E. Freeth (1963-1969). All these gentlemen also became Chairman of the Division. The position of Honorary Secretary was abolished at the end of the 1972 Session.

The other important position on the Division executive is that of Honorary Treasurer. There have been several members who have rendered long conspicuous service in this position. The longest serving of the Honorary Treasurers was Mr. F. Edmondson, who held the position for eight years during the period 1954-1957 and 1963-1966. Those who held the position for five-year periods were Messrs. J. Andrew (1921-1925), F.L.W. Morrison (1930-1934), A.G. Sloane (1935-1939), I. Davies (1940-1944), S.R. Newsome (1945-1949), and V.M. Hall (1958-1962).

As the Division membership grew, it became necessary to engage secretarial staff. The first appointment was Miss B. Knight who served for 12 years before retiring

in 1947. She was followed by Miss W.M. Curry, who was succeeded in July 1950 by Miss A.G. Caldwell. Miss Caldwell retired in 1973, and her 25 years of meritorious service to the profession was recognised by Her Majesty the Queen by the Award of the M.B.E. The present Secretary, Mr. John Sullivan, was appointed in November 1972.

Learned Society Activities

The early Committees of the Perth Division carried on and expanded the learned society activities previously undertaken by the Western Australian Institution, and their efforts were assisted by the regular technical publications produced by the new Institution through its Sydney headquarters. Commencing with the 1920 Volume, the Transactions of the Institution were published annually, and these included selected papers prepared by members. In response to a demand for more frequent publications, the Transactions were supplemented in 1924 by a Quarterly Bulletin which covered general news items in addition to technical papers, and was partially financed from advertising revenue. Commencing in 1929, the Journal of the Institution was introduced to replace both the Transactions and Quarterly Bulletin. The Journal provided for the regular publication of technical papers as well as relatively topical news items, and was very popular with members. It was several years before the Perth Division attempted any publications of its own.

Status and Qualifications

The Committees of the Perth Division also became closely involved with activities in which the Western Australian Institution had not taken a great interest. These were principally in matters associated with the general status of engineers, and with qualifications for membership. It has already been mentioned that corporate members of the Foundation Societies had been accepted as corporate members, with the grade of Associate Member, in the new Institution. Also at the beginning, the Institution had adopted a realistic approach by accepting that candidates for Associate Membership, who were already well established as practising professional engineers, were exempted from examination requirements.

Nevertheless, from the time of its foundation, the Institution was determined to establish the status of the profession by maintaining adequate entrance standards. The first Council had set up a committee to formulate plans for Institution controlled examinations, which would be a pre-requisite for admission to corporate membership. In 1921 this committee became known as the Board of Examiners, and it has continued through to the present as one of the most important Standing Committees of Council. In liaison with the principal educational authorities throughout the Commonwealth, efforts were progressively made to have engineering training courses comply with standards set by the Institution.

The Perth Division co-operated closely at the local level in all matters associated with the establishment of the Institution's examination system in 1922, and with its subsequent supervision. It was also involved in the assessment and full recognition of the Bachelor of Engineering course at the University of Western Australia in 1921, together with the assessment of certain subjects of courses at the Perth Technical College and the Kalgoorlie School of Mines, and their recognition as providing partial exemption from the Institution's examination.

The Perth Division had maintained close contact with the University of Western Australia, which had been established in 1913 with Engineering as one of its three foundation faculties. Professor H.E. Whitfield, who was the Foundation Professor of Engineering, was a member of the inaugural Division Committee, Chairman of Division in 1921 and Councillor 1921-1923.

The Division was represented on the Faculty of Engineering, and in 1920 the Division received a request from the Chancellor of the University to nominate a representative on the Senate. Mr. F.W. Lawson was appointed.

The Division also campaigned actively to have the Institution's qualifications recognised - particularly by the Public Service which employed the majority of engineers

at that time. Some early success was achieved when on 9 September, 1921, the Public Service Commissioner in Western Australia published amendments to the Engineering Cadetship Regulations, which recognised that Associate Membership of the Institution of Engineers Australia was of equal status with that of the Institution of Civil Engineers, London, as the qualification for permanent appointment in the Public Service.

Statutory Registration of Engineers

In its foundation year, as part of its objective to improve the status of the profession, Council initiated moves for the registration of engineers, and it established a special Standing Committee to supervise these activities. This activity was referred to in all the early Presidential addresses, and was to be actively followed up over the next 15 years. The Constitution of the Commonwealth of Australia did not include powers for federal legislation on this matter, so the question of registration of engineers became a matter requiring individual Acts by State Parliaments.

The Perth Division soon became interested, and arranged a deputation to the Minister for Works (Hon. W.J. George) in March 1920 to seek support for the registration proposal. Council arranged for the preparation of a draft bill which was passed to Divisions for comment. A copy of the draft was forwarded to each member of the Perth Division, and a General Meeting was held on 8 November, 1920 on the topic of "Discussion on a proposed Qualified Engineers (Registration) Act for W.A.", and comments were sent back to headquarters.

An amended draft Bill was approved by Council in April 1922, and referred back to Divisions with authority to make any alterations thought to be necessary to adapt the proposal to meet local requirements. A sub-committee of Perth Division decided to make amendments, to frame it more generally along the lines of the recently enacted Architects Act of W.A.

In June 1923 with the support of the then Premier (Sir James Mitchell), the Minister for Works (Hon. W.J. George) agreed to foster the Bill, which was sent to the parliamentary draftsman for final preparation. The Bill was prepared, but was not introduced before a change of Government in 1924. The new Minister for Works showed no interest in the Bill, and two separate moves to have it introduced by private members also failed. Therefore in October 1928 headquarters was advised that there was little likelihood of success.

The Institution achieved its objective only in Queensland, where in 1929 an Act was passed which provided for the registration of Professional Engineers in that State. The Melbourne Division had managed to have a Bill prepared and presented in the Legislative Assembly, but it lapsed after having been referred to a Select Committee.

As a result of sustained interest shown at the Engineering Conference in Hobart in February 1934, Council revitalised its Standing Committee for Registration of Engineers and Mr. R.J. Dumas, Past Chairman of Perth Division and Councillor was appointed to the committee. A statement by Mr. F.C. Edmondson (Chairman of Perth Division) explaining the registration proposal was published in "The West Australian" on 12 May, 1934. However, the new effort also met with no success, and although the Standing Committee for Registration of Engineers was retained until the beginning of World War II, the Institution had by this time become reconciled to the idea that registration was unlikely to be achieved.

Salaries and Conditions

Concurrently with its efforts to achieve registration, and within the same general objective of improving the status of engineers, the Institution responded to membership requests for assistance to establish salaries for engineers at a reasonable level commensurate with their training and work value. For this purpose Council established the Standing Committee on Professional Status in 1927, and this Committee remained active until it was disbanded in 1939.

In Western Australia the principal efforts were directed towards improving the salaries and conditions of engineers in the public sector. In 1936 a deputation waited on the Minister for Works to urge the passing of legislation to require local government authorities to employ qualified engineers.

While a genuine effort was made, and much solid work was undertaken by the Divisions and by committees of Council in producing information to assist individual groups with arbitration proceedings, and in arranging deputations to Government Ministers, it became obvious during the thirties that the Institution was not an organisation that could adequately commit itself to the problems of remuneration and conditions applying to employee engineers, who made up such a large proportion of its total membership.

Early Professional Issues

The Institution's first Code of Ethics was published in October 1926. However, in 1924 the Perth Division decided to review the evidence given (particularly by engineers) before a Select Committee appointed to inquire into the operations of the Metropolitan Water Supply, Sewerage and Drainage Department. An unfortunate event associated with the inquiry was that before the findings of the Select Committee were released the Chief Engineer of the Department, Mr. F.W. Lawson (the inaugural Chairman of the Perth Division), had committed suicide.

The Division Committee took this action because it believed that the status of the engineering profession had fallen in public estimation. The report which was submitted by Perth Division was approved by Council and published in the Quarterly Bulletin of October 1925, for information and guidance of all Institution members.

Another incident occurred in 1930 when the new Government under Sir James Mitchell decided to combine the then relatively minor office of Commissioner of Main Roads with the major office of Engineer in Chief of Public Works Department, and appointed the Commissioner of Main Roads to the combined position. The Engineer in Chief (Mr. F.W. Stileman) who was Chairman of Perth Division at the time, was retired as a surplus officer. There were certain aspects about the incident which several members of the profession considered to be unsatisfactory, and following requests by the Western Australian Councillors, Council made a formal protest to the Premier of Western Australia. This is referred to in the Annual Report of the Institution for 1930.

Standards

In 1922 the Institution published a set of General Conditions of Contract for Electrical Works and in 1925 published a set of General Conditions of Contract for Engineering Works Structures and Buildings. In 1930, the responsibility for revisions of the General Conditions of Contract was handed over to the Standards Association of Australia, which had been founded in 1929 as an amalgamation of two associations, namely the Australian Commonwealth Engineering Standards Association and the Australian Commonwealth Association of Simplified Practice. The former association had been established by the Institution of Engineers Australia in 1922. The Institution has always been dominantly represented on the Council of the Standards Association of Australia, and most Divisions have acted as its agents in the capital cities throughout Australia. This activity still remains in Adelaide and Perth but will cease in both places later this year.

Highlights

An event of significance during the first decade was the hosting of Perth Division of the 5th Annual Engineering Conference, which was held during the period from 25 February to 4 March, 1927. The procedure (which continues to the present day) of holding a full meeting of Council as well as the Annual General Meeting of the Institution in conjunction with the Annual Engineering Conference, had been established with the inaugural conference. In those early days, it enabled many of the members in Western Australia to observe for the first time the operation of the Institution's central administration. The total registration at the Conference was 105.

In August 1935, the Perth Division moved from the Professional Societies Rooms in Murray Street to temporary accommodation in the W.A. Turf Club Building in Howard Street. In June 1938 the office and meeting room were moved to Gledden Building on the corner of William and Hay Streets, and this was to remain the home of the Perth Division for more than 20 years.

For the Institution, the highlight of the thirties was its success in obtaining incorporation by Royal Charter. The official announcement was made in March 1938 at the official opening of the 16th Annual Engineering Conference which was being held in Sydney as part of the celebration of Australia's 150th Anniversary. The granting of the Royal Charter enabled Corporate Members of the Institution to use the title of Chartered Engineer (Australia).

The Post War Industrial Action

As World War II entered its concluding stages, rehabilitation and post war training of ex-servicemen became active issues. Inevitably the question of status and remuneration were again raised, and in January 1945 the Institution appointed a Field Officer who was charged with the responsibility of investigating and reporting on all matters relevant to the status of engineers. Action was quite rapid after this, and in July 1945 during the presidency of Professor Blakey, Council endorsed a proposal to establish an association of professional engineers for registration in the Commonwealth Court of Conciliation and Arbitration, and directed that draft articles of association be prepared.

The name adopted for the new organisation was the Association of Professional Engineers Australia (i.e. A.P.E.A.).

A.P.E.A. was constituted as a federal body on 16 September 1946, and originally included only Victoria, New South Wales and South Australia.

On 30 September 1946, the Perth Division of the Institution called a special meeting to inaugurate A.P.E.A. in Western Australia and elect a provisional committee.

The Western Australian Branch was admitted to A.P.E.A. on 4 November, 1946.

The first Federal Council of A.P.E.A. met in Melbourne on 28 March 1947, and one of the Councillors from Western Australia was Professor O.F. Blakey.

A.P.E.A. was to be called on for much hard work in the face of strong opposition, before it was successful in obtaining its first Professional Engineers Award in May 1961. This Award established national minimum salary standards at the Qualified Engineer and Experienced Engineer levels.

From the viewpoint of the Institution, the principal aspect of the Professional Engineers Award was that it gave legal recognition to the Institution's accrediting function, because it defined a "Qualified Engineer" as one qualified to become a Graduate member of the Institution of Engineers Australia, and an "Experienced Engineer" as one qualified to be an Associate Member of the Institution of Engineers Australia.

Between 1961 and 1963, the Council of the Institution again made a detailed examination of the question of legal registration, and finally in April 1963 declared that it did not now favour legal registration of engineers in Australia.

Consulting Engineers

The action to which I have just referred had application to the interests of the major proportion of the Institution's membership, namely those in the category of employee engineers.

Another very important, although numerically much smaller, section of the Institution membership is the consulting engineers. The consulting engineers have continuous direct public contact, and by their individual performance on behalf of their clients and towards each other, they set a standard, on the basis of which the whole profession is often judged.

The 1921 Council had appointed a committee to review conditions of practice for consulting engineers, and to set a scale of fees that might be charged. The document which it prepared was entitled "Professional Practice and Charges of Consulting Engineers" and it was approved by Council in 1926. The document was reviewed at intervals, but after 1955 the conditions of practice were published separately to the scale of fees.

The most recent review is entitled "Conditions of Professional Practice for Consulting Engineers", and was approved by Council in November 1966. The scale of fees is reviewed by Council at regular intervals.

In 1937, Council resolved that the setting up of Consulting Engineers Panels within Divisions should be encouraged, and the first panel was established in Melbourne Division the following year.

In the early fifties, joint meetings of the Division panels were held, and in 1952 these led to the formation of an independent organisation known as the Association of Consulting Engineers Australia.

However, the Institution continued to unofficially recognise the Division panels, and in November 1959 Council somewhat belatedly approved conditions for their operation.

In Western Australia during pre-war years, the opportunities for consultants were quite limited, and few practises were established. During the fifties the economic position improved, and a Consulting Engineers Panel was formed by the Perth Division in 1956 and it continued until February 1971.

The Western Australian Chapter of A.C.E.A. was established in 1962, and is an active group with a current membership of 52. Like A.P.E.A., it is an organisation which is quite separate from the Institution, and is thus outside the scope of this paper. Nevertheless, it would be inappropriate if I did not make reference to the unique contribution made by Dr. G.B. Hill, who was Federal President of A.C.E.A. in 1971 and 1972 while being Chairman of the Western Australia Division of the Institution in 1971.

Property Development

In the years following World War II, Division membership continued to increase very satisfactorily, and the 500 membership mark was passed in 1949. This brought with it confidence concerning the feasibility of the Division developing its own office and auditorium. In 1955 the Division purchased a property in Hooper Street, West Perth, and planned a building which was to be known as Science House - being the same name as that of Institution headquarters in Gloucester Street, Sydney. The new building at 10 Hooper Street, was officially opened by the Governor of Western Australia, Sir Charles Gairdner on 16 February 1959. The Institution's facilities have been progressively expanded, and the final activity was to demolish the old residence at 12 Hooper Street and construct the parking area in 1972.

Branches and Groups

From the time it was established, the Bye-laws of the Institution have provided for the formation of branches within Divisions, for the closer co-ordination of technical matters. For many years the Perth Division considered that it could adequately cater for the learned society needs of its members without specialist branches. However, with the continued growth in membership, and the rapid increases in technology, the various disciplines required more autonomy, and Branches were progressively established.

The first specialist unit to be established was the Perth Division Group of the Australian National Society of Soil Mechanics and Foundation Engineering. Its name was changed to the Geomechanics Group in 1970, when the Australian Geomechanics Society was established as a joint activity between the Institution of Engineers, Australia, and the Australasian Institute of Mining and Metallurgy. Other branches were formed within the Division as follows:- Hydrology (1965), Mechanical (1966), Concrete (1967), Electrical & Electronics (1967), Environmental (1970), Civil (1976) and Chemical (1976).

Prior to World War II, the only significant area outside of Perth offering employment for engineers was the Eastern Goldfields, and a Group of the Perth Division was established at Kalgoorlie in 1925. The Group went into abeyance in 1937, but was revived in 1948. As Government sponsored post war programmes were put into effect, and more recently with the mineral development in the Pilbara, groups were established at Bunbury (1955), Albany (1961), Geraldton (1963), Kimberley (1963), Dampier (1972), Port Hedland (1972), and Mt. Newman (1974).

Awards

In accordance with the provisions in its original constitution, and subsequently by the Royal Charter, the Institution has made a number of annual awards. The national awards have always been administered by headquarters, but many of the Divisions have been quite active in making awards to encourage persons in the category of Graduate (formerly Junior) and Student members, and more recently also to students at tertiary education establishments.

The first award within the Perth Division was initiated in 1932, and made annually for the best technical paper presented by a Junior or Student member. This prize had a fairly erratic history and in many years no award was made.

Following the death of Professor O.F. Blakey in 1952, a fund was opened for the purpose of founding a prize in his honour, and donations were received from members of the Perth Division. The prize which consisted of a cash premium was to be available for competition among Graduate and Student members. It was approved by Council in March 1954 and was first awarded in 1955. It replaced the earlier prize which is referred to above.

Annual awards to final year students in engineering courses were introduced at the Western Australian Institute of Technology (1969) and the University of Western Australia (1970). The latter two awards initially consisted of cash premiums which were funded by the Division. In 1976, Council reviewed its policy on awards, and the principal effect on the Western Australia Division was that medals were added to its three existing awards. Council also approved the recommendation from the Division Committee that the medals awarded to students at the University of Western Australia and the Western Australian Institute of Technology be named in honour of Sir Russell Dumas and Mr. J.D. Leach, both of whom had given great service to the State and to the Institution.

Changes in the Sixties

For nearly its first 50 years, there had been few significant changes within the Institution. However, in the late sixties three fairly significant alterations were made. The first of these was in May 1968, when an amendment was made to the Bye-laws in order to provide that those previously known as Members became Fellows, and those previously known as Associate Members became Members. The only previous change in designation, had been made in 1951 when the grade of Junior Member was replaced by the grade of Graduate member.

At the time of its foundation, there were seven Divisions within the Institution. Two of these (i.e. Sydney and Newcastle) were in New South Wales, and there was one Division in each of the other States. Canberra Division was established in 1926. It has already been pointed out that with the exception of Tasmania, each Division was originally identified by the name of the city in which its office was located. However in 1967, the Brisbane and Adelaide Divisions became the Queensland and South Australian Divisions respectively. In 1968 the Melbourne Division became the Victoria Division, and finally in 1969 the Perth Division became the Western Australia Division.

The original constitution provided for the Council to elect each year a Junior Vice-President, who would under normal circumstances become a Senior Vice-President in the next year, and then would be elevated to the position of President in the following year. In 1968 the Bye-laws were amended to provide that each year Council would elect from its own numbers a Senior Vice-President (who would assume the office of President the following year) and five (5) Vice-Presidents. The Vice-Presidents were

to be elected annually by Council, and be eligible for a maximum term of three consecutive years, but with no rights to the position of Senior Vice-President. The Vice-Presidents form the nucleus of the Executive Committee of Council. They are available to undertake special projects requested by the President and at the same time the system enables the smaller Divisions to be represented by a senior office bearer more frequently than they could hope to provide a President.

Publications

For many years, the only publication venture by the Perth Division was restricted to the notices concerning General Meetings of Division. However, in September 1944, it was decided to expand these notices with local items of general interest to members, and thereby the Perth Division Bulletin was established. This is still published regularly but since March 1969 it has been known as "The Chartered Engineer". A new format of Chartered Engineer was introduced in July 1974.

When the Journal of the Institution was introduced in 1929, it included both general news items as well as the technical papers which had been previously published in the Transactions, and therefore, for the next 29 years, the cover of the Journal carried the banner "Incorporating the Transactions of the Institution". In 1958 Council resolved to introduce publications which would better cater for specialised fields, and arranged to separately publish the Civil Engineering Transactions and the Electrical-Mechanical Engineering Transactions, leaving the Journal for technical papers of general interest plus news items. In 1964 the Electrical Engineering Transactions were published separately and the Mechanical-Chemical Engineering Transactions were introduced.

In 1975 the publishing of the Transactions became the responsibility of the Colleges, and each College now produces a separate publication. A further development which was approved by Council for implementation in 1977, is that all Transaction papers will in future also be available as "separates"; that is they will be printed and can be made available as separate articles before the bound volumes are produced.

On 5 November 1976, the Institution launched its news magazine known as "Engineers Australia", and this replaced the Journal which had been published every two months in latter years. "Engineers Australia" has a modern magazine style layout, and uses as its model the "New Civil Engineer" which is published by the Institution of Civil Engineers in the United Kingdom. It is being published fortnightly and is designed to meet a clearly identified need for information on topical events of interest and concern to engineers. Since its inception, "Engineers Australia" has provided up-to-date news from Divisions and Colleges. This service is to be expanded in May 1977 to publish details of Division meetings, etc., and thereby allow the Divisions to dispense with their own regular bulletins.

Conclusion

From the outset, Council has quite intentionally left the Divisions with a fair degree of autonomy; and because they were the successors of the Foundation Societies, the Divisions naturally displayed certain individual differences. To some extent the Institution has followed the trend of all organisations having a federal structure, and the authority of the central administration has progressively become more dominant. However, the Divisions have retained adequate autonomy, and all have retained the basic individuality needed to adapt to local requirements.

The Divisions with their branches and groups can be expected to retain a key role in the organisational structure of the Institution, even though at the Annual General Meeting in 1974 another major organisational unit was established, when the membership was also divided into five Colleges. The Colleges were introduced because, with the rapid development of technology and the increasing need for specialisation, there came a strong desire (particularly within the large Divisions) for the main disciplines to be co-ordinated at the national level. This was also seen as a method to counter the tendency for the profession to fragment itself in the manner which had occurred in Britain.

In the re-drafting of the Bye-laws and Regulations which was necessary to accommodate the Colleges, a conscious effort was made to preserve the status of Divisions. Provision was made for 10 of the 14 members on each College Board to be elected by Divisions, and at the same time the Chairman of each Division was made a full member of Council.

From its very humble beginning with 79 members in 1920, the Western Australia Division has grown to a membership of 2,437 by the end of 1976. This makes it now the fourth largest Division within the Institution, following Victoria, Sydney and Queensland in that order. The rate of growth of the Division has always closely followed the State's industrial progress, and the Division therefore looks forward with confidence to the future.

There can be little doubt that the Institution has been of immense value to the profession in aspects such as improved knowledge, improved status and better outside appreciation, and we might ask if this can reasonably continue.

At the very core of the Institution is its Code of Ethics, based on the ideological approach that the true professional is motivated by an obligation to the community and pride in his work, which takes preference over considerations of reward or self-interest.

In order that they may be considered adequate to continue in their traditional role as competent industrial innovators, engineers must be able to communicate with the public and demonstrate that, not only do they possess the necessary breadth of knowledge, but that they also have an understanding of the complex range of political, social, environmental and economic factors which affect our modern society.

All this places a great responsibility on the Institution to show itself as an efficient organisation having the vitality to motivate the profession into adapting to the needs of the community in this period of rapid technological and social change. The Institution is conscious of its role and can provide the necessary facilities, but, if we are to be successful a greater thrust must come from our very large, but somewhat apathetic, general membership.

Acknowledgments

Several of the references in this paper have been obtained from "The History of the Institution of Engineers, Australia" by Professor Arthur Corbett. However these have been extensively supplemented from records within the Western Australia Division, and the assistance of the Division Secretary, Mr. John Sullivan, with this research is gratefully acknowledged.